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## JAPANESE CAUSATIVES ARE NOT RELEVANT TO LEXICAL INTEGRITY

### **Abstract**

Productive Japanese causative verbs appear to form a problem for the idea that the relation between morphology and syntax is characterised by lexical integrity, meaning that the internal structure of complex words is opaque to syntax. This is because such causatives show behaviour that indicates the verb and the causative morpheme head separate syntactic clauses underlyingly, so their structure must be syntactically transparent, but nevertheless the combination of verb and causative morpheme seems to be a morphological complex. In this paper I argue that, given a modular architecture of grammar, the module in which verb and causative morpheme might be argued to be a complex word is morpho-phonology, which is not the module to which lexical integrity pertains. In the module to which this does pertain, morpho-syntax, the productive causative morpheme is a free morpheme, rather than an affix, at all levels of representation. The construction is therefore not relevant to the question of whether or not lexical integrity holds. The paper concludes with a discussion of the relationship between the productive causative and the ‘lexical’ causative, which arguably does involve a morphological complex in morpho-syntax as well as morpho-phonology. It is argued that the occurrence of the same morpheme in syntactic causatives and some lexical causatives does not imperil its status as a free morpheme in the syntactic causative.

**Keywords:** lexical integrity, causatives, Japanese, modularity of grammar, verb raising, restructuring

## 1. Lexical integrity

Lexical integrity is the phenomenon that syntactic rules and principles do not appear to be sensitive to, or apply to, the parts of complex words, but only to complete words. This is expressed by such principles as the following:

(1) Generalized Lexicalist Hypothesis (Lapointe 1980)

No syntactic rule can refer to elements of morphological structure

(2) Word Structure Autonomy Condition (Selkirk 1982)

No deletion or movement transformations may involve categories of both W[ord]-structure and S[entence]-structure

(3) Atomicity thesis (Di Sciullo and Williams 1987)

Words are ‘atomic’ at the level of phrasal syntax [...]. The words have ‘features’ or properties, but these features have no structure, and the relation between these features to the internal composition of the word cannot be relevant in syntax

Evidence for lexical integrity, and suggestions on how to derive it from properties of the architecture of grammar, can be found in, for example, Di Sciullo and Williams 1987, Bresnan and Mchombo 1995 and Ackema and Neeleman 2004, and I will not further discuss the motivation for it here.

Nevertheless, all along in the debate about the phenomenon, empirical data have been put forward that appear to challenge the principle (see Lieber and Scalise 2005 for recent discussion). In this paper I will discuss one construction that might be regarded as a ‘classic’ in this respect, namely the case of Japanese causatives. I will argue that the violation of

lexical integrity that these appear to display at first sight is only apparent and that they are in fact not relevant to lexical integrity at all.

## 2. Syntactic causatives in Japanese: bi-clausality and predicate raising

Japanese has two types of causatives, a 'lexical' one (with an idiosyncratic, unpredictable, meaning for the derived verb) and a 'syntactic' one. The latter is formed by attaching the morpheme *sase* to the verb, and always has transparent causative semantics. This is a fully productive process; hence, the terms 'syntactic causative' and 'productive causative' will be used interchangeably below.

The syntactic causative has properties that indicate that, at least underlyingly, it is a bi-clausal structure. Causative *sase* is the independent head of a main clause, which takes an embedded clause headed by the verb that is causativised as complement:

- (4) [Clause Subj [Clause Subj (Obj) V] *sase*]

Arguments to the effect that a bi-clausal structure is involved in syntactic causatives include the following (see Kuno 1973, Shibatani 1972, 1976, Kuroda 1986, 1993; for overviews see Cipollone 2001 and Harley 2008).

First, adverbs and quantifiers can take embedded scope, that is, they can scope over the caused event only. This is illustrated in (5)-(6) (from Cipollone 2001). (*-ase* in (5) and (6) is the allomorph of the causative morpheme that shows up after consonant-final verbs, cf. section 3).

- (5) Suzuki-sensei-ga Taroo-ni gakkoo-de hashir-ase-ta.

*Suzuki-teacher-NOM Taroo-DAT school-LOC run-cause-PAST*

Wide scope: 'At school, Suzuki-sensei made Taroo run.'

Narrow scope: 'Suzuki-sensei made Taroo do something, namely run at school.'

- (6) Sensei-ga gakusei-ni san-satsu-no hon-o yom-ase-ta.

*teacher-NOM students-DAT three-volumes-GEN book-ACC read-cause-PAST*

Wide scope: 'There were three (particular) books that the teacher made the students read.'

Narrow scope: 'The teacher caused the students to read three books.'

Second, the anaphor *jibun* is restricted in the type of antecedents it can take in such a way that its antecedent must be a subject.<sup>1</sup> In the syntactic causative construction, *jibun* can not only take the causer as antecedent, however, but also the causee, indicating that the latter is also a subject at some level of representation.

- (7) Hanako<sub>i</sub>-ga Taroo<sub>j</sub>-ni jibun<sub>i/j</sub>-no shashin-o mi-sase-ta (Cipollone 2001)

*Hanako-NOM Taroo-DAT self-GEN photo-ACC see-cause-PAST*

'Hanako<sub>i</sub> made Taroo<sub>j</sub> see her<sub>i</sub>/his<sub>j</sub> picture.'

Third, it is possible to have a disjunctive coordination below one instance of *sase* (example from Kuroda 2003):

- (8) Hanako-ga Masao-ni uti-o soozisuru ka heya-dai-o haraw-aseru koto ni sita  
*Hanako-NOM Masao-DAT house-ACC clean or room-rent-ACC pay-cause that to did*  
 ‘Hanako decided to make Masao clean the house or pay room rent’

Here, *sase* is attached to the verb in the second conjunct, but it scopes over the entire disjunction, indicating it takes this disjunction as its syntactic complement. Again, then, *sase* behaves as a main verb that takes a full embedded clause headed by the causativised verb (or, in this case of coordination, causativised verbs).

At the same time, syntactic causatives also have some properties of monoclausal structures. This was shown already by the adverb and quantifier scope data in (5) and (6), since, next to taking embedded scope, these elements can also take matrix scope, despite them appearing in the apparently embedded clause.

Another way in which these causatives behave on a par with monoclausal sentences is that the distribution of morphological cases across constituents is the same as what would be expected if they formed a single clause. In particular, they show the same case distribution as sentences containing a simplex verb taking two internal arguments (simple di-transitives), one internal argument being accusative and the other dative. (In case the causativized verb is intransitive, the case marking is the same as in sentences with a simplex transitive).

Because of this ‘dual’ behaviour, a popular type of analysis for this type of structure is that it is underlyingly bi-clausal, but becomes monoclausal after a process of ‘restructuring’. Restructuring may consist of raising the embedded verb, or more generally the embedded predicate, to the matrix verb, after which the two behave as one complex predicate. In the case of the Japanese causative, predicate raising would consist of raising the causativized verb to the causative morpheme *sase*. The data can then be accounted for if the properties that indicate monoclausality are dealt with at surface structure (e.g. the distribution of nonlexical,

structural, case), and the properties that indicate biclausality relate to the underlying presence of an embedded clause. Analyses involving predicate raising have been defended by Kuno (1973) and Kuroda (2003), among others.

Predicate raising has also been argued to derive the verbal clusters that occur in sentence final position in the Germanic OV languages (Evers 1975, Haegeman and Van Riemsdijk 1986, Seuren and Kempen 2003, Kiss and Van Riemsdijk 2004), and it may even apply, though covertly, in similar restructuring contexts in VO languages like English and the modern Romance languages (Kayne 1991, Roberts 1997, Cinque 2000). Causative verbs behave like a restructuring verb in these languages, too, despite clearly not being a bound morpheme here. Thus, in Dutch, for example, causative *laten* ‘let’ also triggers raising of the verb that heads its complement clause. In contrast to Japanese, where raising is string-vacuous, this can be clearly seen in Dutch, as the order of the verbs in the resulting verb cluster can be the opposite of their underlying (OV) order:

(9) Ik geloof dat Piet Jan laat werken.

*I believe that Piet Jan lets work*

‘I think that Piet makes Jan work.’

(underlying) (ik geloof) dat Piet [Jan werken] laat →

(surface) dat Piet [Jan  $t_i$ ] laat werken<sub>i</sub>

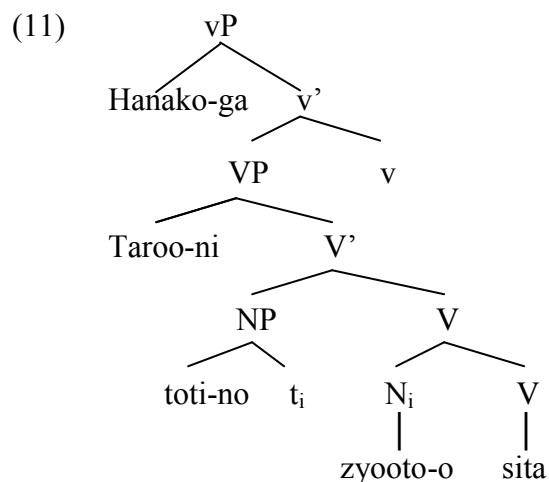
What is attractive about the assumption that there is predicate raising in Japanese as well is that it not only accounts for some properties of the syntactic causative, but for a number of other constructions with complex predicates as well, as argued in work by Saito and Hoshi,

among others. An example is the Japanese ‘light verb’ construction discussed by Grimshaw and Mester (1988). An example of this is given in (10).

- (10) Hanako-ga Taroo-ni [<sub>NP</sub> toti-no zyooto]-o si-ta  
*Hanako-NOM Taroo-DAT land-GEN giving – ACC do-PAST*  
 ‘Hanako gave a piece of land to Taroo’

It seems that, structurally, this is a sentence with a verb that takes two internal arguments, one of which is a noun phrase with an internal genitive argument. Semantically, however, not only the genitive phrase *toti-no* ‘land’, but also nominative *Hanako-ga* and dative *Taroo-ni* are arguments of the noun *zyooto* ‘giving’. They cannot be arguments of the verb *sita* ‘do’, despite clearly being case-marked by this verb, as this verb is semantically vacuous in this case. Saito and Hoshi (2000) and Saito (2002) argue that this apparent paradox is resolved by predicate raising. The predicate *zyooto* ‘giving’ raises to the light verb *sita*, after which the two act as a complex predicate that inherits its thematic roles from the noun in it (as the light verb has no thematic roles, or only empty ones), and that can hence theta-mark the arguments in the clause. The case-assigning capabilities of the complex predicate, in contrast, originate in its verbal head.<sup>2</sup> Thus, (10) has a structure as in (11).





Matsumoto (1996) and Cipollone (2001) discuss a range of other constructions with complex predicates in Japanese that show the same ‘dual’ behaviour with respect to mono- or biclausality as the causative and the light verb constructions, which may hence all involve predicate raising.

There is even a piece of data that suggests there is always verb raising in Japanese, regardless of whether the matrix verb is a ‘restructuring’ verb or not. A general condition on head-to-head adjunction, such as verb raising, is that at the point of application of the rule the two heads involved must be adjacent (see Van Riemsdijk 1998 for extensive motivation and discussion of this condition). Due to the strictly head-final nature of Japanese, this is usually not a problem for predicate raising, since verbal heads are all adjacent at the right edge of the clause:

(12)  $[IP [VP \dots [IP [VP \dots V] I] V] I]$

Colloquial Japanese allows for deviations from the OV nature of sentences, however. In the relevant sentence type, one or more ‘extraposed’, postverbal, elements appear that are associated with an empty argument position or an adjunct position within the clause. Thus,

next to the standard order in (13a), the orders in (13b) and (13c) occur as well in colloquial Japanese (examples from Kamada 2008):

- (13) a. Taro-ga kuruma-o kinou kat-ta  
*Taro-NOM car-ACC yesterday buy-PAST*  
 ‘Taro bought a car yesterday’  
 b. kuruma-o kinou kat-ta Taro-ga  
 c. Taro-ga kinou kat-ta kuruma-o

Surprisingly, while this kind of extraposition can target phrases that originate in an embedded clause, it cannot put such phrases in an extraposed position in the embedded clause itself (see Kuno 1978, Kuroda 2005). Instead, in such cases extraposition has to go all the way to the end of the matrix clause, as the following minimal pairs show (examples from Abe 2004, Kamada 2008 and Mits Ota (personal communication)):

- (14) a. [John-ga Mary-ni e<sub>i</sub> watasita no] wa hushigida sono hon-o<sub>i</sub>  
*John-NOM Mary-DAT hand-PAST COMP TOP surprising that book-ACC*  
 ‘That John handed that book to Mary is surprising.’  
 b. \*[John-ga Mary-ni e<sub>i</sub> watasita sono hon-o<sub>i</sub> no] wa hushigida  
*John-NOM Mary-DAT hand-PAST that book-ACC COMP TOP surprising*

- (15) a. Watashi-wa [John-ga  $e_i$  sono hon-o kureta to] it-ta watasi-no musume-ni<sub>i</sub>  
*I-TOP John-NOM that book-ACC give-PAST COMP say-PAST I-GEN daughter-DAT*  
 ‘I said that John gave that book to my daughter.’
- b. \*Watashi-wa [John-ga  $e_i$  sono hon-o kureta watasi-no musume-ni<sub>i</sub> to] it-ta  
*I-TOP John-NOM that book-ACC give-PAST I-GEN daughter-DAT COMP say-PAST*

This restriction on extraposition is quite unexpected at first sight, as it appears to be an ‘anti-locality’ effect that is in stark contrast to the strict locality of rightward movements in English such as heavy NP shift (compare Ross’s 1967 Right Roof Constraint). Possibly this indicates that the Japanese construction does not involve movement at all (see Kamada 2008). What is crucial here, however, is that the hypothesis that there is always verb raising in Japanese provides an explanation for why local extraposition in an embedded clause, as in (14b) and (15b), is ungrammatical. If the extraposed element ends up in a position in between the embedded verb and the matrix predicate, it blocks verb raising because of the above-mentioned adjacency requirement on this process. If the extraposed element is at the right edge of the matrix clause, it does not intervene in this way and verb raising can proceed as usual. Hence, the assumption that there is general verb raising in Japanese can account for an otherwise mysterious restriction on extraposition.

With the general availability of predicate raising in Japanese in mind, let us return to the syntactic causatives and their challenge to lexical integrity. The Japanese causative is a challenge to the idea that lexical integrity is a valid generalization concerning the interaction between syntax and morphology for the following reason. It appears that there is a biclausal structure at least underlyingly, that is, a structure in which the causative morpheme *sase* and the causativized verb head separate clauses. But *sase* is standardly classified as being a suffix. If *sase* is indeed a suffix, then the V-*sase* complex that is derived by verb raising is a

morphologically complex word. That means these causatives would involve an instance of word formation through a syntactic process, a situation that according to any lexical integrity principle should be impossible.<sup>3</sup> In some models this is accepted at face value, and syntactic affixation and word formation is accepted in general. However, this might leave unexplained other lexical integrity effects, which do seem to exist (see for instance Ackema and Neeleman 2003 for an overview). Therefore, other models of grammar have an architecture from which lexical integrity effects are expected to follow – but in such models the Japanese productive causative is problematic for the reason just given. A typical response to this by defenders of lexicalist models is to deny that Japanese productive causatives are bi-clausal. At least some arguments for bi-clausality, as given above, can be said to be semantic rather than syntactic in nature. This holds at least for the data regarding scope, and perhaps the data regarding the anaphor *jibun* as well, if binding is essentially semantic in nature. (In that case, the relevant property of admissible antecedents for *jibun* cannot be the syntactic factor that they must be a subject, but must be something semantic, such as their being an Agent or at least 'most prominent argument of a predicate' or something similar). Therefore, at least in models in which the autonomy of the various grammatical modules is stressed (e.g. Autolexical Syntax, see Sadock 1991, 2012), it could be maintained that the Japanese productive causative is entirely monoclausal in syntax, with the suffix *sase* not being an independent head at any syntactic level of representation. At the same time, in the semantic representation the causative suffix *sase* is the head of a higher, independent, proposition, accounting for the facts that were taken to indicate bi-clausality. (An equivalent mechanism of what could be termed 'semantic raising' for the causative suffix is argued for within HPSG by Manning et al. 1999 and Cipollone 2001). A good overview of this position can be found in a recent defense of it by Yuhara (2011), who traces the proposal back to Kitagawa 1986. It is clearly illustrated by the following diagram (Yuhara's (6)), where 'Prop.' Stands for 'Proposition':



In syntax, the causative is entirely monoclausal, but a process of Affix Raising at LF renders the construction bi-propositional.

A problem with proposals along such lines is that, arguably, they do not actually prevent the problem they are meant to avoid, namely the violation of lexical integrity, from arising. This is because, if *sase* is a proper affix, it should not have the semantic raising capabilities it is endowed with in (16): other bona fide affixes do not allow this, and this may well be precisely because of lexical integrity. This issue is discussed in Ackema and Neeleman (2003:104-107), who note that affixes are unlike, say, quantifiers in syntax in not being able to undergo covert (LF) raising. For example, in syntax the scope ambiguity between an indefinite and the negation in a case like (17) can perhaps be understood in terms of possible LF raising of the indefinite quantifier:

(17) John hasn't received a book he ordered yet.

reading 1: It is not the case that John has received any book he ordered yet.

reading 2: There is a book that John ordered and that he has not received yet.

In contrast, morphemes in words do not display scope ambiguities of this type. Consider the following Inuit data from Bittner 1995. Here the antipassive affix is an indefinite argument (optionally doubled by an oblique NP 'a book' in syntax, which is usually analyzed as occupying an adjunct position; see Baker 1996 and Jelinek 2006 for discussion of the syntax

of polysynthetic languages). The scope relations between this argument and the negative affix are determined by their morphological c-command relation: if the antipassive affix is attached above negation, it takes scope over negation (as in (18a)) and vice versa (as in (18b)).

(18) (Last year Jaaku ordered five books. Yesterday, when I talked to his mother . . .)

a. suli atuakka-mik ataatsi-mik tassumunnga tigu-sima-nngi-nira-i-vuq

*yet book-INST one-INST him-DAT get-PERF-NEG-say-APM-3SG*

'She said there is one book which he did not get yet.'

b. suli atuakka-mik ataatsi-mik tigu-si-sima-nngi-nirar-paa

*yet book-INST one-INST get-APM-PERF-NEG-say-3SG.3SG*

'She said he did not get a single book yet.'

Crucially, (18b) cannot be interpreted such that the indefinite argument expressed by the antipassive morpheme takes scope over negation, suggesting that there is no LF raising of affixes internally to words, let alone out of words into a higher proposition.<sup>4</sup> As noted, this observation might be the consequence of something like (1) - (3) holding. But that means we are back where we started, namely at the observation that, if *sase* is a bona fide affix, it is unlike other affixes in that it appears to be able to be involved in processes that target syntactically independent elements only, contra what lexical integrity says is possible.

In this paper I will argue that, even in case the syntactically bi-clausal analysis for productive causatives in Japanese is correct, they are in fact not relevant to lexical integrity to start with. I will follow one insight of the lexicalist analyses of the type just discussed, namely that the solution is to be sought in the possibility that the representation of the causative structure in two independent modules of grammar need not be fully isomorphic. However, I will argue that the crucial mismatch is not one between syntax and semantics, but

one between syntax and phonology. Moreover, I will argue that at the relevant level of representation (namely morpho-syntax) *sase* is not a suffix at all, but an independent verb, thereby rendering it irrelevant to considerations of lexical integrity.

### 3. *Sase*: affix or free morpheme?

The fact that there is predicate raising in causatives as such does not bear on the affixal nature of *sase*. Whatever triggers raising, it is not something like the stray affix filter, since, as discussed in the previous section, it also occurs with light verbs as matrix verb and possibly even with all matrix verbs. While the causative morpheme cannot occur on its own and obligatorily takes a verbal complement, that is not because of a morphological property, but plausibly because of its semantics. After all, the same holds for causative verbs in Germanic verb clustering languages, such as Dutch *laten* ‘let’. This, too, cannot occur without a verbal complement (see (19a)) and always triggers raising of the verb in its complement (see (9) above). Nevertheless it clearly is a free form, not a suffix, as is shown by the fact that it undergoes the Verb Second rule operative in Dutch main clauses on its own, as illustrated by (19b).

- (19) a. \*Marie liet gisteren.

*Marie let yesterday*

- b. Marie laat<sub>i</sub> haar studenten erg hard werken t<sub>i</sub>.

*Marie lets her students very hard work*

‘Mary makes her students work very hard.’

What, then, are the arguments for the assumption that *sase* is an affix, rather than an independent verb? Put differently, what is the evidence that a verb-*sase* complex is a *morphological* complex, over and above being a verb-verb cluster derived by predicate raising? A good overview of relevant arguments is given by Manning et al. 1999 and Cipollone 2001. Let us consider these in turn.

Some of the arguments in effect show that the causative morpheme and the causativized verb form a complex predicate. These can therefore plausibly be explained by the hypothesis that there is verb clustering / predicate raising alone and do not bear on the affixal nature of *sase*. For one, this holds of the adverbial scope data discussed in section 2. Arguably, it also holds for certain data regarding subject honorification discussed by Manning et al. 1999, Gunji 1999 and Cipollone 2001.

Subject honorification can apply to the causativized verb, in case the Agent argument of this verb is honorific; see the position of the honorific circumfix *o-[ ]-ni naru* in (20a), from Gunji 1999. It can also apply to the entire verb-*sase* complex, in case the Cause argument is honorific (see (20b), from Cipollone 2001). Manning et al. observe that honorification cannot apply, however, to *sase* alone (see (20c), from Cipollone 2001), showing that, at the point of application of honorification in this case, verb and *sase* must form a complex predicate, with a single argument structure.



(20) a. Ken-ga Suzuki-sensei-o o-aruki-ni nar-ase-ta

*Ken-NOM Suzuki-teacher-ACC HON-walk-HON-cause-PAST*

‘Ken made Prof. Suzuki (hon) walk.’

b. Sensei-ga imooto-ni hon-o o-yom-ase-ni naru

*teacher-NOM (my) younger sister-DAT book-ACC HON-read-cause-HON*

‘The teacher (hon) will make (my) younger sister read a book’

c. \*Sensei-ga imooto-ni hon-o yomi-o-sase-ni naru

*teacher-NOM (my) younger sister-DAT book-ACC read-HON-cause-HON*

These data can be explained under the assumption that honorification can apply anywhere in the derivation, but must (like other syntactic processes) follow the cycle. In that case, it can apply to the verb in the embedded clause before this is combined with the causative, and it can apply to the verb-causative complex after the causative is introduced in the derivation and has triggered predicate raising. There is no stage in the syntactic derivation where it could target the causative on its own, however, under the assumption that predicate raising applies at the point matrix and embedded predicate are combined.

Another argument put forward in favour of affixal status for *sase* that can be explained by complex predicate formation alone concerns case distribution in the presence of a ‘potential’ morpheme. One of the uses of the morpheme *rare* is that it can express modal possibility. When it is added to a transitive verb, the direct object can optionally carry the nominative case particle *ga* instead of the accusative particle *o*. Manning et al. observe that this also holds for the object of the causativised verb in a causative construction, even though the potential morpheme occurs outside the entire verb-*sase* complex:

- (21) Okaasan-wa imooto-ni miruku-o/-ga nom-ase-rare-ru  
*mother-TOP sister-DAT milk-ACC/-NOM drink-cause-POT-NPAST*  
 ‘(My) mother can make (my) younger sister drink milk.’

This indicates that with respect to structural case distribution, the verb-*sase* complex behaves in the same way single predicates behave. However, as discussed in section, 2, the fact that a verb-*sase* complex shows the same behaviour with respect to the distribution of structural cases as a simple transitive verb was in fact one of the arguments for adopting a predicate raising analysis for causatives. The only assumption required then is that structural case assignment is dealt with at surface structure (or later, cf. footnote 2), rather than at an earlier stage of the derivation (like lexical case) – a standard assumption. The data do not show anything beyond this. In particular, they do not bear on the morphological status of *sase*.

The final argument for the supposed affixal nature of *sase* that can be given an independent explanation based on predicate raising alone is the following. In English, it is possible to repeat the finite verb in an answer to a yes/no question:

- (22) a. Q: Have you read the book?      A: Yes, I have  
       b. Q: Did she go to Paris?         A: Yes, she did

Japanese has a similar construction, but in this case the main verb of the question is repeated. In case there is an embedded clause, only the matrix verb is repeated as answer:

- (23) Q: [Taroo-ga it-te kure-ru yoo ni] tanon-da ka?  
*Taroo-NOM [go-GER give-NPAST (COMP)] ask-PAST QUES*  
 ‘Have (you) asked Taroo to go?’

A: Tanon-da (yo)

*ask*-PAST EMPH

‘Yes, I have’ (literally: ‘Asked’)

Manning et al. observe that in causatives, the causative alone cannot be repeated as answer to a yes/no question. Only the entire verb-causative complex can be repeated:<sup>5</sup>

(24) Q: Taroo-o ik-ase-ta ka?

*Taroo*-ACC *go-cause*-PAST QUES

‘Have (you) caused Taroo to go?’

A1: Ik-ase-ta (yo)

*go-cause*-PAST EMPH

‘Yes, I have’ (literally: ‘Caused to go’)

A2: \*Sase-ta (yo)

*cause*-PAST EMPH

What does this show? Arguably, what happens in the English case in (22) is not so much that a single verb is repeated. Rather, in the answer the entire IP is repeated, but there is VP-ellipsis. Evidence for this is that the construction is not possible in a language that has no VP-ellipsis, like Dutch.<sup>6</sup> Instead, the entire VP is replaced by a pro-form in the answer:

(25) Q: Heb jij het boek gelezen?

*have you the book read*

‘Have you read the book?’

A1: \*Ja, ik heb

*yes I have*

A2: Ja, dat heb ik

*yes that have I*

It would be attractive to assume, then, that the Japanese construction is not any different and also involves VP-ellipsis. At first sight, that may seem to be impossible, since we see the main verb itself showing up in the answers in (23) and (24). However, if the main verb moves out of VP first, it will be stranded by VP-ellipsis. With respect to the crucial causative case, we already assumed that the main verb raises to *sase*, so data like (24) come out as expected:

(26) [<sub>VP</sub> pro [<sub>VP</sub> Taroo-o t<sub>i</sub>] ik<sub>i</sub>-ase-ta]

→ (VP-ellipsis)

[<sub>VP</sub> pro [~~VP Taroo-o t<sub>i</sub>~~] ik<sub>i</sub>-ase-ta]

In cases where there is no embedded clause and predicate raising, we can maintain a VP-ellipsis analysis if there is general V-to-I or V-to-C raising in Japanese (string-vacuously, as I and C are right-peripheral in head-final Japanese). There are reasons to believe that there is such rightward verb movement in Japanese, but it would take us too far afield to discuss this

here; for discussion see Kuno 1978, Saito 1985, Koizumi 1995, 2000 and Vermeulen 2008 (and see also section 4 below).

The data discussed so far show that the syntactic causative in Japanese involves complex predicate formation, on a par with verb raising constructions in Germanic OV languages, but this as such does not provide evidence for the affixal status of *sase*, as the Germanic counterparts of this causative verb clearly show. However, there are some further arguments that do seem to show that in some respects verb-*sase* in Japanese is a more closely-knit unit than verb-verb clusters in Germanic. Crucially, these arguments are based on evidence that can be argued to be essentially phonological in nature. The two main arguments appear to be the following.

First, *sase* has an allomorph *ase*. Which of the two shows up depends on a property of the verb to which it is attached. If this verb ends in a vowel, the causative shows up as *sase*, whereas if the verb ends in a consonant, the causative shows up as *ase* (examples from Cipollone 2001)

(27) a. *tabe-sase-ru*

*eat-cause-NPAST*

b. *ki-sase-ru*

*wear-cause-NPAST*

c. *ake-sase-ru*

*open-cause-NPAST*

- (28) a. nom-ase-ru  
       *drink-cause-NPAST*
- b. kak-ase-ru  
       *write-cause-NPAST*
- c. waraw-ase-ru  
       *laugh-cause-NPAST*

This allomorphy is evidently phonological in nature, triggered as it is by a phonological property of the verbal base.

The second argument is based on reduplication, a process that applies to verb stems in Japanese to denote repetition of an action or continuous action. Verb stem + *sase* complexes can be reduplicated, while *sase* alone cannot (examples from Cipollone 2001):

- (29) a. gohan-o tabe tabe  
       *rice-ACC eat eat*  
       ‘eating rice repeatedly’
- b. ?gohan-o tabe-sase tabe-sase  
       *rice-ACC eat-cause eat-cause*  
       ‘causing someone to eat rice repeatedly’
- c. \*gohan-o tabe-sase sase  
       *rice-ACC eat-cause cause*

In this respect other verbal complexes that result from predicate raising behave differently. For example, if a combination of the light verb *suru* ‘do’ and its nominal complement (see section 2) is reduplicated, it is only the light verb that is reduplicated, as in (30) (from

Kageyama 1999:316); reduplicating the entire noun + light verb complex is not possible (cf. Kageyama 1977, 1999).

- (30) undoo-sii-sii  
*exercise-do-do*  
'taking exercise repeatedly'

So there is a sense in which a verb-*sase* complex forms a single verb whereas some other verbal complex predicates do not. The question is which sense this is. Arguably, it is, again, a purely phonological sense.

That the argument based on reduplication indicates the causative morpheme behaves like an affix to the verb in phonology, but not necessarily in syntax, is because the reduplication process is in all likelihood a (morpho-)phonological process, rather than a (morpho-)syntactic process (cf. Kageyama 1999, who terms Japanese reduplication a 'postsyntactic' process). The input to the process is a particular form of the verb, the so-called *renyookei*, which Poser (1991) describes as "the bare stem of the verb together with an epenthetic /i/ if the stem is consonant-final", so a form that is defined in phonological terms. The process also imposes phonological demands on its output, namely that both elements must be at least bimoraic: if the *renyookei* is monomoraic, the vowel is lengthened in both base and reduplicant in the reduplicated form (Ito 1990, Poser 1990). While the process thus is subject to phonological conditions, both where it concerns its input and its output, there are no indications that it is similarly subject to any syntactic conditions.<sup>7</sup> Thus, the fact that this process targets V-*sase* complexes shows that these complexes are morpho-phonological units, not that they are morpho-syntactic units as well.

To sum up, the proper arguments for affixhood of *sase* are phonological in nature. There are no syntactic arguments to this effect, since the non-phonology-based arguments that have been given in this respect can all be explained by the fact that the verb undergoes verb raising to the causative morpheme, something that does not tell us anything about whether that morpheme is an affix or not. Given this state of affairs, the answer to the challenge for lexical integrity lies in the relationship between morphology and syntax with another component of grammar, phonology.

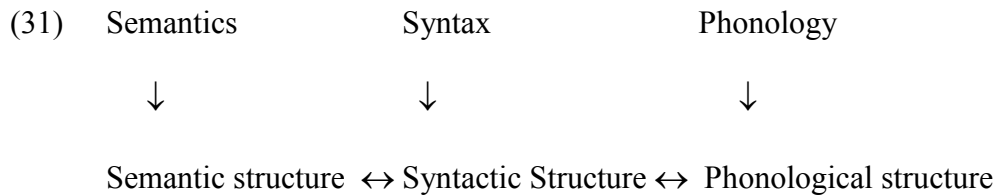
#### **4. A solution based on the Separation Hypothesis**

The Separation Hypothesis is the idea that morphophonological properties of morphemes are strictly separated from their semantic and morphosyntactic properties. A morpheme is not a phonological-syntactic-semantic unit taken from the lexicon and combined with other morphemes as a whole in a single module of grammar. Rather, its semantic and morphosyntactic features are inserted in the semantic and morphosyntactic components of grammar respectively, while only the morphophonological component contains its overt phonological form. The three representations thus formed must of course be related, something which is achieved by a set of mapping/linking/correspondence principles; for various different versions of this basic idea see for instance Sproat 1985, Anderson 1992, Halle and Marantz 1993, Beard 1995, and Jackendoff 1997.

Although it does not matter for the argument below which particular instantiation of the Separation Hypothesis is adopted, for concreteness' sake I will adopt the model of grammar outlined in Jackendoff 1997 (see also Sadock 2012 for a comparable model). According to this model, phonology, semantics and syntax are independent generative systems associated by mapping principles. In other words, a sentence has a semantic, syntactic and phonological representation, whose well-formedness is determined by



conditions particular to the respective components only. In addition, grammaticality requires successful association of these representations. At the sentence level, then, the model of grammar assumed here is as follows (where  $\leftrightarrow$  indicates mapping relations):



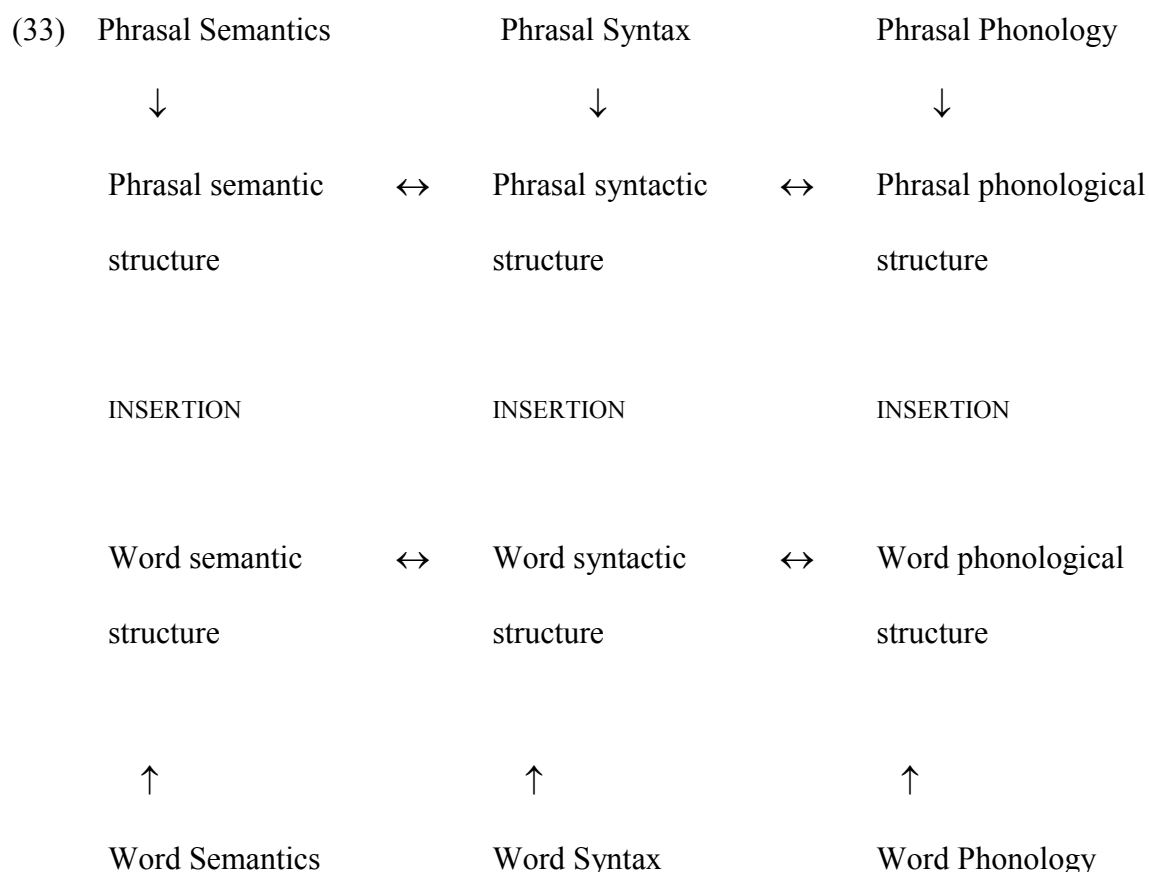
The evidence for a strict separation of syntactic and phonological structure is fairly straightforward: phonological representations are not isomorphic to syntactic representations, and phonological and syntactic primitives are members of disjoint sets. One example illustrating this, borrowed from Jackendoff (1997:26), is (32). In syntax, *a big house* is a DP that consists of a determiner and a complex NP complement. In phonology, it consists of two phonological words, the first of which is formed by the determiner and the adjective. So, both constituency and labels differ.

- (32)
- a.  $[_{DP} a [_{NP} [_{AP} big] house]]$
  - b.  $[_{\phi} [_{\omega} a big] [_{\omega} house]]$

It is not plausible that the same type of operations that derive one representation from another within syntax proper could also derive (32b) from (32a). It is usually assumed that in syntactic derivations structure and/or copies of constituents can be added (by merge and move), while it is not possible that structure and/or labels of constituents get destroyed or changed (compare for instance Chomsky's 1995 Inclusiveness condition). However, as noted, compared to (32a), (32b) contains both a different structure and different labels. The

implication of this is that (32b) is not derived from (32a). Rather, (32a) and (32b) are generated separately in two distinct modules of grammar, and are associated by mapping principles (such as principles stating that certain syntactic phrase boundaries and certain phonological phrase boundaries should be aligned; this is indeed the predominant view in the literature on the syntax–phonology interface, see for instance Selkirk 1984, 1986, Nespor and Vogel 1986, Inkelas and Zec 1990).

How does morphology fit into this picture? Without discussion I will assume here that, in general, the situation at word level mirrors the situation at sentence level in that there are independent generative systems which define well-formed morphosyntactic, morphophonological and lexical-semantic representations. As is the case at the sentence level, these must be associated by mapping principles. The morphosyntactic structures are related to the phrasal syntactic ones by a process of insertion, the properties of which I will also leave undiscussed here, and something equivalent holds for the relation between word-level and sentence-level structures in phonology and semantics. The model of grammar in (31) should hence be extended as in (33). For motivation of such a view on morphology see Jackendoff 1997 and Ackema and Neeleman 2004.



I will further assume that morphosyntax (‘word syntax’) manipulates hierarchical representations, containing distinct structural positions for the morphosyntactic part of affixes and other morphemes (although the Separation Hypothesis does not in any way hinge on that assumption; see for example Anderson 1992 and Beard 1995 for different views). I will refer to affixal constituent parts of morphosyntactic representations as *AFFIXes*, to be distinguished from */affix/es*, which represent the overt form of an affix as inserted in the morphophonological module of grammar.

Given the Separation Hypothesis, something that is an affix in morphosyntax (an *AFFIX*) need not correspond to something that is an affix in morphophonology (an */affix/*). Ackema and Neeleman (2004) argue, for example, that the Dutch suffix *-achtig* ‘-like’, which can freely take phrasal bases, instantiates the case where an *AFFIX* corresponds to a */word/* rather than an */affix/*.

Crucially, given the Separation Hypothesis, nothing rules out the possibility that the opposite occurs as well, that is, that there are cases in which an /affix/ corresponds to something that is a free morpheme in morphosyntax. Ackema and Neeleman (2004) argue that a particular type of clitics, occurring in Middle Dutch and modern Irish, can fruitfully be analysed along such lines. The clitics in question are independent words in syntax, which correspond to something that is smaller than a phonological word in phonology. Hence, their phonological correspondents must incorporate into another phonological word in the morpho-phonological module. Ackema and Neeleman propose in general that languages can contain ‘context-sensitive spell-out’ rules of the format in (34). In (34), { } indicate prosodic phrase boundaries, while < > indicates a phonological word.

$$(34) \quad \{ \dots A \dots [{}_B F_1 F_2] \dots \} \rightarrow \{ \dots \langle A \dots [{}_B F_1 F_2] \rangle \dots \}$$

The rule states that if two particular types of element find themselves in the same phonological phrase at PF, one of them gets weakened to something smaller than an independent phonological word and hence must form a phonological word together with the other element.

The Japanese data discussed above can then be accounted for by the context-sensitive spell-out rule in (35), which states that if a causative morpheme finds itself in the same phonological phrase as a verb at PF, it must phonologically incorporate into this verb, in the sense that it must form a single phonological word with it.

$$(35) \quad \{ \dots V \dots [CAUSE] \dots \} \rightarrow \{ \dots \langle V \dots [CAUSE] \rangle \dots \}$$

Arguably, this rule is not an exceptional one-off case in Japanese, as there are other elements in the language that are independent heads in syntax but behave like a phonological affix, among them the coordinator *–to*; see Vermeulen 2008 for discussion.

Recall now that the proper arguments for affixhood of *sase* are both phonological in nature (see section 3) (where ‘proper’ means it is an argument that cannot be accounted for purely by the assumption that the causativised verb undergoes predicate raising to *sase*, something that does not bear on the affixal status or otherwise of the latter). Given the Separation Hypothesis, this means that it is at least possible to assume that *sase* is a free morpheme in syntax. In other words, this means we can treat the productive causative construction as a purely syntactic, non-morphological, construction in the relevant module of grammar, which in turn means that it cannot possibly constitute a counterexample to lexical integrity. The argument becomes stronger, of course, if there is *positive* evidence that, syntactically speaking, *sase* is not an affix but an independent verb. There are some data that are at least suggestive in this respect.

First, consider again the data that show there can be coordination below *sase*, given in (8), repeated here as (36).

- (36) Hanako-ga Masao-ni uti-o soozisuru ka heya-dai-o haraw-aseru koto ni sita  
*Hanako-NOM Masao-DAT house-ACC clean or room-rent-ACC pay-cause that to did*  
 ‘Hanako decided to make Masao clean the house or pay room rent’

It has been argued that cases in which a verb at the right edge scopes over a coordination to its left are derived by across-the-board rightward V-to-I movement in Japanese (see for instance Saito 1985 and Koizumi 1995, 2000). This is because the conjuncts in such cases can be apparent non-constituents, as in (37) (from Vermeulen 2008):

(37) Mary-ga [[John-ni ringo-o 2-tu]-to [Bob-ni banana-o 3-bon]] ageta.

*Mary-NOM John-DAT apple-ACC 2-CL -and Bob-DAT banana-ACC 3-CL gave*

‘Mary gave two apples to John and three bananas to Bob.’

What appears to be coordinated in (37) is a combination of indirect object and direct object, rather than a single constituent. Data like (37) can be reconciled with the observation that usually only constituents can be coordinated by assuming that they involve VP-coordination, with the finite verb having left the VPs by across-the-board rightward V-to-I (or maybe V-to-C) movement. If there is indeed V-to-I in Japanese (see also the discussion around (26) above), this implies that in (36) causative *sase* has undergone verb movement on its own. It cannot be the case that the entire verb-*sase* complex (*haraw-aseru* in (36)) has undergone this movement since, in contrast to what is the case in (37), the (nonfinite) verb in the first conjunct in (36) is still clearly present inside VP. The nonfinite verb in the second conjunct can, therefore, not have been taken along with *sase* under V-to-I or (36) would constitute a violation of the Coordinate Structure Constraint. In phonology *sase* is realized as one phonological word with the verb in the second conjunct because of the context-sensitive spell-out rule in (35), but in syntax it undergoes raising on its own. If *sase* can undergo verb movement on its own like this, it must be an independent verb (compare the Dutch causative verb *laten* ‘let’ similarly undergoing Verb Second on its own in (19b) above).

Second, Kuroda (1981, 2003) argues that *sase* can also take non-verbal complements, and that in that case other elements can intervene between it and its complement (compare the adjacency condition on verb-to-verb raising discussed in section 2):<sup>8</sup>

- (38) a. Taroo-ga saiminzyutu de Hanako-ni senaka-o kayuku saseta  
*Taroo-NOM hypnosis by Hanako-DAT back-ACC itchy caused*  
 ‘Taroo caused Hanako to feel itchy on the back by hypnosis’
- b. Ryoosin-ga gan de sinda koto-ga Hanako-o isya-ni saseta  
*parents-NOM cancer by died that-NOM Hanako-ACC doctor-DAT caused*  
 ‘That her parents died of cancer made Hanako a doctor’

Kuroda’s interpretation of these data (which is not undisputed, see e.g. Kitagawa 1986) is that here *sase* is not an affix but a free form. If so, it is attractive to assume that *sase* is in fact *always* a free form in syntax, but happens to be subject to (35) in phonology. This rule accounts for why, in case the causativised predicate is verbal, *sase* appears attached to the causativised verb. The rule in (35) does not apply in the cases of (38), since the predicate embedded under *sase* is not verbal there, so the structural description of the rule is not met. Hence, *sase* need not phonologically incorporate into the embedded predicate here, and other elements may intervene between the two.<sup>9</sup> But in both cases we are dealing with the same morpheme *sase* that is a free morpheme in syntax.

Third, Kaori Miura (personal communication) informs me that the construction where *sase* takes a disjunction as complement (see (8)/(36)) has an alternative in which the disjunction *ka* ‘or’ is doubled (more or less on a par with the English ‘either...or’ construction). In that case, *sase* is in fact separated from its verbal complement by the second instance of the disjunction:

- (39) Hanako-ga Masao-ni uti-o soozisuru ka heya-dai-o harau ka sase  
*Hanako-NOM Masao-DAT house-ACC clean or room-rent-ACC pay or cause*  
 ‘Hanako decides to either make Masao clean the house or make him pay room rent’

The parts of discontinuous disjunctions, like *ka ...ka* in (39), are arguably placed at the edges of the two constituents that are coordinated, see for instance Schwarz 1999 for discussion. The right-hand *ka* in (39) therefore plausibly marks the right edge of the VP in the second conjunct. The fact that *sase* appears to the right of this *ka* thus is a visible indication that this morpheme can excorporate from the causative verb cluster and undergo V-to-I movement on its own, as claimed before for the case of (36) where this movement was string-vacuous. Again, then, we see this alleged affix behaving syntactically like a free morpheme. It is only its phonological incarnation, present in the phonological module but not in syntax, that behaves like a suffix.

### 5. How can *sase* also figure as an affix in lexical causatives?

Above I argued that *sase* is not an affix, morpho-syntactically speaking (but only morpho-phonologically speaking). A final problem for this assumption is that this morpheme not only occurs in the syntactic causative, but with a number of verbs at least also in the ‘lexical’ causative. This is a construction in which a verb is transitivised, but where the result is not transparently causative but rather receives an idiosyncratic, unpredictable, meaning and crucially, where there is no evidence of the type discussed before that the construction is biclausal. For all intents and purposes the verb and ‘causative’ (transitivising) morpheme form a single morphological unit in this construction, at all levels of representation.



Japanese has a set of transitivity affixes available. A particular verb can specify which of these occurs as its transitivity marker in the ‘lexical causative’. *Sase* functions as the elsewhere form here if no other affix is selected by a verb; see for instance Miyagawa 1984, 1989 and Harley 2008. The question is how we can account for the fact that the same morpheme that was argued above to be a free morpheme appears to function as an affix, standing in an elsewhere relation to other things that are clearly affixes, in this construction. For Miyagawa, this indicates that syntactic causatives are ‘lexical’ (morphological) after all. For Harley, it indicates that even ‘lexical’ causatives are formed in syntax: in a ‘lexical’ causative *sase* is just attached at a lower level in the structure than where ‘syntactic’ *sase* attaches. If we adopt the former hypothesis, we cannot maintain any longer that *sase* is a free morpheme. But if we adopt the latter hypothesis, lexical integrity would be violated for the lexical causatives, since, as just noted, in their case there is no evidence that they are anything other than derived words at any level of representation. I will argue that a solution to this puzzle is possible which on the one hand is very reminiscent of Harley’s idea that the difference between ‘syntactic’ and ‘lexical’ *sase* is only a difference in where in the morpho-syntactic structure *sase* is attached, while on the other hand maintains the central hypothesis defended here, namely that syntax and morphology are two independent generative modules of grammar connected in such a way that lexical integrity effects are expected.

This can be done by adopting Ackema and Neeleman’s (2004) idea that these two independent generative modules can compete for the privilege of combining (merging) two items. At least in non-polysynthetic languages, syntax takes precedence over morphology in this respect, all else being equal. ‘All else being equal’ here means that in the competing structures projections of the same categories combine and the semantic relationship between the combined categories is the same.

This means that, if nothing further would be said, any morpheme would behave like a free morpheme in languages like English or Japanese, as it is expected to combine with other elements in syntax, not in morphology. One thing that activates morphology in these languages is simply that morphemes can be listed in the lexicon with the idiosyncratic information that they only allow combination in the morphological submodule of grammar. Such morphemes are the affixes ‘proper’ of the language. However, a much more interesting situation, providing evidence for the hypothesis that there is competition between syntax and morphology, arises when elements that otherwise behave like free morphemes are allowed to occur in morphological combinations.

Ackema and Neeleman argue there are two reasons for why morphology can be activated this way. The first is that, for reasons I cannot go into here, competition is suspended in the complement position to a ‘proper’ affix (an element that always combines morphologically). Hence, combinations of elements that are normally combined into a syntactic phrase can show up as morphological compounds when they occur as the base for an affix. This accounts for why synthetic compounds are derived from root compounds that do not occur independently (see also Ackema and Neeleman 2010), and for the ‘dual’ morphological and syntactic behaviour of particle verbs, among other things.

The second way in which morphological combination of non-affixes is licensed relates to the issue of when something needs to be listed in the lexicon or not. All individual morphemes must be listed, as their meaning is not predictable. As noted above, an individual morpheme can be stored in the lexicon with a specification that it must combine morphologically. For instance, the relevant part of the lexical entry for an English suffix like *-er* is as in (40), where the relevant specification is indicated with the diacritic M. Given this entry, there simply cannot be a syntactic competitor when *-er* is present. (Note that, given the

Separation Hypothesis, *er* in (40) actually represents the morpho-syntactic side of the affix, not its overt form in phonology).

(40)  $\langle_M \_\_ er_N \rangle$

Given that affixes are listed in this way, it should also be possible to specify that a complex lexical item consisting of two morphemes, represented here as  $a^b$ , should be realised morphologically:

(41)  $\langle_M a^b \rangle$

This is what gives the option of root compounding. Although in a root compound neither the head nor the nonhead requires morphological realization on its own, the whole must be specified as morphological if it is to survive competition with a potential syntactic counterpart. This accounts for a well-known observation, namely that all root compounds have an unpredictable meaning (it can be predictable what their head is in a given language, but the semantic relation between head and non-head is not predictable from the structure). Consider why.

Information is only stored if not fully determined by rule.<sup>10</sup> This means that lexical items are either simplex or idiomatic. Conversely, complex structures with compositional semantics are not listed. Now, if an item is listed, it can be listed with a specification of its locus of merger (morphology or syntax). An affix such as *-er* is listed by virtue of it being simplex, and since it is listed it can be listed as being a morphological object. Similarly, a simplex free morpheme is listed, but without an *M* specification. (One could give it an *S*(yntactic) specification, but this is superfluous under the assumption of morphosyntactic

competition as outlined above). If the combination of two free morphemes is to be listed as morphological, as in (41), there must be a reason to list that particular combination in the first place. Given that we are not dealing with a simplex lexical item, it must be the combination itself that has an unpredictable semantics. This means root compounds can only exist by virtue of having an unpredictable semantics. If a combination of two free morphemes has a compositional semantics, it will not be listed in the lexicon, so that it cannot be listed as being a morphological combination either. In that case, competition determines that the combination is realized syntactically (in a non-polysynthetic language).<sup>11</sup>

Returning now to the question why the free morpheme *sase* can occur in ‘lexical’, that is morphological, causatives and stand in an elsewhere relation with respect to the spell-out of the transitivity part of such causatives with things that are purely morphological elements (proper affixes), the crucial observation is that, as mentioned in section 2, lexical causatives always have an idiosyncratic meaning, as opposed to the transparently compositional meaning of the syntactic causatives. Crucially, that means that listing of lexical causatives in the lexicon is required. That, in turn, gives the possibility of listing the combination of verb root and *sase* as in (41), that is, with an indication that these two elements are to be combined in morphology rather than syntax, overruling the usual competition between the two components that has syntax as winner in a language like Japanese. Thus, the causative morpheme is not itself an affix (it does not carry a diacritic M in the lexicon) and because of competition as outlined above it normally combines with its verbal base in syntax. It is those combinations of causative morpheme and verb that have unpredictable meanings, and which therefore must also be listed in the lexicon as a combination, that can be listed as being morphological.

The competition between *sase* and other affixes for the honour of spelling out the causative morpheme in lexical causatives then proceeds on a par with other proposals

incorporating Elsewhere-governed competition in this respect, such as Harley's Distributed Morphology-based one mentioned above. There are vocabulary items that are specified as being the realization of the causative morpheme in a morphological combination with specific verbs. For example, *-e* is the realization of the causative morpheme in a morphological combination with *hikkom* 'draw back' (the combination meaning 'to take in'), while *-os* is its realization in combination with *horob* 'perish' (the combination meaning 'to destroy') (see Jacobsen 1992 for a full overview).

- (42) a.  $\langle_M \text{DRAW-BACK}^{\wedge}\text{CAUSE} \rangle \leftrightarrow \text{hikkom-e-ru}$   
 b.  $\langle_M \text{PERISH}^{\wedge}\text{CAUSE} \rangle \leftrightarrow \text{horob-os-u}$

If no specific realization of the causative morpheme is stipulated for a particular verb-causative combination, then the elsewhere form *sase*, simply specified as the realization of CAUSE as in (43), is used.

- (43) CAUSE  $\leftrightarrow$  *sase*

The same spell-out in accordance with (43) is the only option for any syntactic combination of the causative morpheme and a VP, since such semantically transparent combinations are not listed as such at all (see above).

## 6. Conclusion

I have argued that the verb-*sase* complex in Japanese syntactic causatives is a purely syntactic complex, not a morphological one. *sase* behaves like a free morpheme; for example, it can undergo verb raising on its own. Arguments that have been given for it being an affix

either (i) do not actually show that it is an affix but only that it forms a verb cluster with its complement verb as the result of verb-to-verb raising in syntax, or (ii) are morpho-phonological in nature, not morpho-syntactic. Given the Separation Hypothesis, this means that the phonological side of *sase* has affix-like properties in morpho-phonology, while at the same time the syntactic side of *sase* does not have such properties in morpho-syntax. This in turn means that the fact that verb-*sase* complexes are the result of a syntactic process of predicate raising does not violate lexical integrity in any way, simply because the resulting structure is not a morphological, but a purely syntactic, complex in the relevant module of grammar.

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## Footnotes

<sup>1</sup> It has been argued (see for instance Kameyama 1984 and Oshima 2004) that a logophoric individual can bind *jibun* even when this individual is not expressed by the subject but by an oblique (although the data are not uncontroversial, see Iida 1996). Since examples like (7) do not involve such logophors this is not relevant to the argument at hand.

<sup>2</sup> If case assignment takes place after raising, as assumed above, then (because of Baker's 1988 'Government Transparency Corollary' or an equivalent holding of incorporation structures, and his observation that incorporated nouns do not need case themselves) we actually expect accusative case on *toti* 'land' and no case on *zyooto* 'giving'. This distribution of cases is indeed possible as well, see for instance Poser 1991. The fact that the case distribution can also be as given in the example in the text (with genitive on *toti* and accusative on *zyooto*) indicates that case assignment can also take place before there is predicate raising in this case; put differently, it indicates that predicate raising in the light verb case is a 'late' process, taking place at the same level where case checking takes place (so that there is no intrinsic ordering between the two), say at LF; see Saito and Hoshi 2000 for relevant discussion.

<sup>3</sup> The syntactic literature contains many other proposals according to which (some) complex words result from head-to-head raising or an equivalent syntactic process; for obvious reasons of space I cannot discuss all these here. For some general problems with such proposals see for instance Borer 1998, Ackema and Neeleman 2004, and Williams 2007. On why the existence of clause-internal head positions that are related to inflectional properties of the verb, such as the I position in English and French, does not imply there is actual syntactic affixation, see for instance Joseph and Smirniotopoulos 1993 and Stump 1998. On why cases of ‘incorporation’ in polysynthetic languages (Baker 1988, 1996) may be better analysed as a particular instance of (purely morphological) compounding, see Rosen 1989, Ackema 1999, Mithun 2010.

<sup>4</sup> There is another proposal that relies on LF raising of affixes in words, namely Pesetsky’s (1985) analysis of bracketing paradoxes. Pesetsky argues that the two conflicting structures that seem to be necessary for a word like *unhappier* are present at different levels of representation and related by covert raising of an affix. In particular, the structure that satisfies the phonological requirement that *-er* be attached to a short adjective is present at surface structure (as in (ia)) while the structure that reflects the semantics of the word (where *-er* takes scope over *un-*) is derived at LF by raising of the comparative morpheme (as in (ib)):

- (i) a. [un [[happy] er]]
- b. [[un [[happy] t<sub>er</sub>]] er]

Although an ingenious solution, it has been pointed out by Hoeksema (1987), Di Sciullo and Williams (1987), and others that the properties Pesetsky has to ascribe to the movement in (ib) to prevent overgeneration are radically different from the properties of Quantifier Raising

(or other types of movement) in syntax, which would make it a unique case. In view of the fact that various other approaches to bracketing paradoxes exist (Kiparsky 1983, Sproat 1985, Spencer 1988, Ackema and Neeleman 2002, Den Dikken 2003), I conclude that the case for semantic affix raising is unconvincing here.

<sup>5</sup> This might not be true for all speakers. Miura (2009) cites the following example:

- (i) Q: Hanako-ga Taro-ni uta-wo utaw-ase-tan-dat-te  
*Hanako-NOM Taro-DAT song-ACC sing-cause-PAST-COP-Q*  
 ‘Did Hanako make Taro sing songs?’
- A: Unn, sase-ta  
*yes cause-PAST*  
 ‘Yea, she did.’

Kaori Miura confirms in a personal communication that the answer A here is fine for her. If the analysis in the main text of this construction is correct, what this may indicate is that, in the grammar of the relevant speakers, VP-ellipsis cancels out the need for the verb to raise out of the VP. (That ellipsis can have this effect has been argued before, on the basis of the English ‘pseudogapping’ construction, by Lasnik 1995). Of course, if correct, this would show in the most straightforward way possible that *sase* is in fact a free morpheme. Alternatively, as pointed out by an anonymous reviewer, it is possible that *sase-ta* in the answer in (i) is to be parsed as *s-ase-ta*, that is as ‘do-cause-PAST’, with a form of ‘do’ in the answer replacing the verb ‘sing’ in the question. This would void this argument, of course.

<sup>6</sup> Aelbrecht 2012 argues that Dutch allows VP-ellipsis under root modals. Even if her analysis of the relevant data is correct, this does not affect the argument here, as the examples here do not involve modals (and it is uncontroversial that Dutch does not allow VP-ellipsis elsewhere, such as under the perfect auxiliary *hebben* 'have' as in A1 in (25)).

<sup>7</sup> If reduplication is indeed a purely morpho-phonological process, not a syntactic one, the fact that it has effects on meaning implies that it should be possible that there are direct phonology-semantics connections, unmediated by syntax. Jackendoff (1997:93-96), whose architecture of grammar I will adopt in section 4, argues that this is in fact a beneficial aspect of his model. Indeed, there are various phenomena that show a clear association between a semantic effect and a phonological property without any discernible syntactic consequences. One instance in English one can think of is the fact that sentences with declarative word order can be turned into questions by the right prosody. It would be very cumbersome to assume there is a *syntactic* difference between *John is going to Paris tomorrow?* and *(yes,) John is going to Paris tomorrow!*. Similarly, Szendrői (2001) provides an in-depth discussion of why it is undesirable to mediate the connection between semantic focus and prosodic stress by syntactic 'focus features', rather than establishing this connection directly.

<sup>8</sup> Kuroda (2003:454 footnote 11) notes that alongside a sentence like (38b), the same meaning can be expressed by a sentence like (i), with the verb *sita*, a past tense form of *suru* 'do' .

- (i) Ryoosin-ga gan de sinda koto ga Hanako-o isya ni sita.  
*parents-NOM cancer by died that-NOM Hanako-ACC doctor-DAT made*  
 'That her parents died of cancer made Hanako a doctor'



Kuroda takes this to be structurally different from (38b), however. As discussed in the text, (38b) is the productive causative counterpart formed by *sase* of a sentence like (ii), whose main predicate is a predicatively functioning noun *isya* 'doctor'.

- (ii) Hanako-ga isya.  
*Hanako-NOM physician*  
 'Hanako is a doctor.'

In contrast, Kuroda assumes that in (i) *sita* is the lexical causative of *naru* 'become'. That is, (i) is the lexical causative counterpart of (iii).

- (iii) Hanako-ga isya-ni naru.  
*Hanako-NOM physician-DAT become*  
 'Hanako becomes a doctor.'

<sup>9</sup> Something similar may hold for the case mentioned in footnote 5, where, possibly, for some speakers elision of the VP prevents the need for the causativised verb to raise to *sase*. This verb is therefore included in the VP ellipsis, leaving *sase* on its own at PF. Hence, in this case as well there is no verbal complement to *sase* at PF (there is no complement to *sase* at PF at all in this case), hence the structural description of the rule is not met and it does not apply.

<sup>10</sup> This is orthogonal to the conclusion drawn by Baayen et al. (2002) and others that frequently used rule-governed complex words are stored in order to minimize computational load. (The same may be true of frequently used phrases, cf. Jackendoff 1997.) Although such

forms may be stored with their (regular) semantics, this does not imply that they are stored with a complex structure. For all intents and purposes, such words function as simplexes. Also, note that it is possible to add items to the lexicon, which implies that new forms with an indeterminate meaning (but interpretable in context) can be coined by a speaker. For the speaker these forms are, at least temporarily, part of their lexicon; for the hearer, they function as proposals for new lexical items.

<sup>11</sup> Note that, when a combination of two or more morphemes must be listed because it has a non-compositional semantics, this gives the *option* of also specifying lexically that the combination is morphological rather than syntactic (i.e. that it is a compound). There is no *obligation* to do so. After all, syntactic idioms exist as well.